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ABSTRACT

The study of narrative is an interdisciplinary enterprise actively pursued within literary criticism, semiotics, philosophy, anthropology, linguistics, cognitive psychology, and psychiatry. Within education, narratives have found their practical application in two areas. In the curriculum field, narratives seem an obvious choice as organizing structure. A study of experienced teachers has shown that they intuitively use narratives to bring order to what they consider a chaotic curriculum. The second area in which narratives have found application in education is in research. Many good researchers on teaching use narratives both in the inquiry process and in reporting results. Since the introduction of the concept of "pedagogical content knowledge," more and more researchers and teachers have realized the importance of narrative in the teacher knowledge base. Pedagogical content knowledge is a practical way of knowing subject matter. It is learned mostly on the job in teaching. Tradition provides the narrative models to draw upon to understand and construct the present. The study of teacher narratives brings educators to the heart of pedagogical content knowledge. Such study should focus on four dimensions of narratives: (1) practical experience; (2) interpretation; (3) reflection; and (4) transformation. Teachers not only interpret texts; they must also communicate their understanding to others. (Sixty-four references are attached.) (SG)

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THE NARRATIVE NATURE OF PEDAGOGICAL CONTENT KNOWLEDGE

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INTRODUCTION

In this paper I will focus on the narrative aspect of pedagogical content knowledge and discuss what I think are the important narrative dimensions: the practical aspects and the three processes that characterize this way of knowing, interpretation, reflection, and transformation. While interest in the narrative aspects of knowing and understanding the world have invaded many of the disciplines the education community traditionally draws upon, educational researchers and scholars have, with very few exceptions, chosen to ignore this important shift. The study of narrative is an interdisciplinary enterprise actively pursued within literary criticism, semiotics, philosophy, anthropology, linguistics and two areas within psychology: cognitive psychology and psychiatry. This interdisciplinary character of the study of narratives means that in practice researchers have focused on different aspects of narratives and how they appear in human activities. Consequently, there are several definitions of narratives.

DEFINITIONS OF NARRATIVE

The words "narrative", "narration" and "to narrate" have latin roots where related words mean "knowing", "expertise" and "skilful" (White, 1981). The present use and definitions of the word "narrative" retains some of its latin roots. Regardless of the discipline or scholarly tradition, narrative refers to structure, knowledge and skill in accomplishing a narrative. A narrative works like a "root metaphor" (Sarbin, 1986). It guides the mind through the experience, information or facts that are to be narratized. If, for example, a computer is selected as a root metaphor for human cognition, the computer metaphor dictates how the mind may be subsequently described (Gergen and Gergen, 1986). The choice of the computer as a root metaphor directs the researcher into research areas such as "information processing", "storage", or "retrieval." Gergen and Gergen (1986) make the observation that "such processes do not lie there to be discovered in nature, but are the necessary outcome of adopting the organizing metaphor" (page 25).

In everyday language, "narrative" often means the same as "story." Story, in everyday language, refers to an account of actions usually involving humans or humanized animals. A story has characters, a beginning, a middle and an end, and it is held together by a series of organized events, called plots. In his classic study of myths Fry (1984) considers the story form to represent an collection of relational models by which what would otherwise be nothing more than a series of mechanically connected events can now be connected substantially and morally. Different specialists studying narratives have invented various definitions, of not only story and narrative, but also related concepts such as discourse and inquiry. The different approaches can be grouped into two distinct traditions.

Structuralist literary theorists make a clear distinction between narrative, story and discourse (Culler, 1975). A narrative has two parts, story and discourse (Chatman, 1978). The story includes the events, characters, settings and so on that constitute the content of a narrative. Discourse is the telling, the expression, presentation or narration of the story. The discourse can be spoken, written, or acted out in drama, motion picture, mime or dance. The end product is a narrative, an organized text (Chatman, 1981).

Other scholars entertain a much looser distinction between story and narrative, a distinction I feel comfortable with and will adopt in this paper. Here, story is considered to have a well marked beginning, middle, and end phases (Scholes, 1981; White, 1981). While narratives are structured, they do not include such clear distinctions. White (1981) takes narratives to incorporate a point of view that imposes "a certain number of exclusions and restrictive conditions" (page 3), but Scholes (1981) focuses on the structuring and communicative aspects of narratives and maintains that a "narrative is a sequencing of something for somebody."

This last definition of story and narrative has been adopted by many education researchers and scholars who have used narratives and stories in their work. Within education, narratives have found their practical application in two areas. The first area is the curriculum field. Here, narratives seem a obvious choice as organizing structure. Talented teachers, like Leimar, (1974), Marshall (1963). Paley (1990), and Warner (1963) have described how they use stories to engage their children. Curriculum specialists, like Egan (1988) have advocated that teachers should use a narrative structure to organize the curriculum where, for example, a unit on the Vikings lasting several periods gets a narrative form. A study of experienced teachers has shown that they

intuitively use narratives to bring order to what they consider a chaotic curriculum (Gudmundsdottir, 1991). The narrative structure is also what novice teachers seem to use when they try to make sense of the curriculum both for themselves and their students (Carter, 1991; Gudmundsdottir, 1990). The narrative also characterizes the ways in which veteran teachers organize what they know about teaching. "Hanna," a retired teacher, represents her important professional knowledge in stories, stories of events and people that happened decades ago, and (perhaps) thanks to the narrative form, she still remembers vividly and in details (Ben-Perets, 1989). When Hanna and her fellow practicions, young and old, have to transform "knowing into telling" (White, 1981), the narrative becomes their natural choice.

The second area within education where narratives have found their application is educational research. Elbaz (1990) identifies three themes in research on teaching, one of them is story. She makes the observation that "the story is the very stuff of teaching, the landscape within which we live as teachers, researchers and within which the work of teachers can be seen as making sense (Elbaz, 1990, page 31). Elbaz is referring to three types of narratives: the narrative in the curriculum, the narrative in the teachers' lives, and the researchers' narrative about the two narratives, that is educational research.

Connelly and Clandinin (1990) call their work, and other related research, "stories of experience and narrative inquiry," that is, they tell stories of practitioners and conduct narrative inquiry. Narrative, to them, means both the "phenomenon and the method" (Connelly and Clandinin, 1990, page 2). It is clear that many good researchers on teaching use narratives both in the inquiry process and in the reporting of research results. As Spence (1984) noted "there seems no doubt but that a well constructed story possesses a kind of narrative truth that is real and immediate" (page 21). Researchers' narratives of individual teachers, student teachers or small groups of these, show that the narrative seem like a natural mediator between the particular in the individual classroom and classrooms all over the Western world. The stories of "Sarah" (Elbaz, 1983), "Bruce" (Clandinin and Connelly, 1986), "Stephanie" (Clandinin, 1986), "Colleen" (Grossman, 1987), "Nancy" (Gudmundsdottir (1988, 1991), "Catherine" (Reynolds, 1987) and "Benny" (Erwanger, 1973) play well in Scandinavia too.

One of the reasons why these stories are accepted on the other side of the Atlantic Ocean is because here is something very basically human about narratives. White (1981) suggests that the study of narratives involves "reflection on the very nature of culture and possibly even on the nature of humanity itself (page 1). Culture, language, and narratives have been constant travelling companions though the history of human evolution. For example, we see this in the cave drawings in France and Spain. The drawings are narratives describing a hunt, and from these vivid and dramatic paintings it is possible to conclude that those who created them had some form of language and, therefore, a culture. Today, different cultures maintain a stock of typical narratives that communicate and conserve shared meanings. To participate in a culture is know and use a range of accumulated and shared meanings. These shared meanings, however, are not static but are in constant revision. It is this shared meaning that brings Bruner (1986) to say that, we as individuals, are only "variant of the culture's canonical forms" (page 15). His words are echoed by McIntyre (1985) who goes as far as to say that if children are deprived of stories "you leave them unscripted, anxious stutters in their actions as in their words" (page 216).

CONCEPTIONS OF PEDAGOGICAL CONTENT KNOWLEDGE

Ever since Lee Shulman (1987) introduced the concept "pedagogical content knowledge" more and more researchers and teachers are realizing that it represents an important element in the teachers knowledge base. The concept refers to the teachers' ways of knowing and understanding their subject matter that is "unique for teachers and teaching" (Shulman, 1987). It makes intuitively sense that experienced teachers should know their subject matter differently than those who are not engaged in teaching. Moreover, this concept and the model portray teaching as an interpretative and reflective activity, where teachers implant the curriculum and the texts they teach with their values and meaning (Gudmundsdottir, 1990a). This image of teaching is further illuminated in the work of Doyle (in press), Ben-Peretz (1990), Jackson (1986), Connelly and Clandinin (1988), Egan (1988) and Elbaz (1983).

Even though Shulman's concept has captured the imagination of many teachers and researchers, the concept and the knowledge it stands for, remain diffuse. Researchers have described how this way of knowing develops among novices (Bullough, 1989; Carter, 1991; Grossman, 1987, Grossman and Gudmundsdottir, 1987; Gudmundsdottir, 1990b; Reynolds, 1987, and Wineburg, 1987), and research focusing on experienced teachers demonstrates, that this group of teachers know their subject matter differently than novice teachers (Grant, 1988; Gudmundsdottir, 1988; Hashweh, 1985; Leinhardt and Smith, 1985). Their knowledge is practical, it has developed through practice over the years, and often it is shown to be characterized by its narrative nature.

What is implied in pedagogical content knowledge is that teachers' content knowledge has been transformed into something different from what it was before, a form that has practical application in teaching. Subsequent discussions of the concept have focused on this transformed content knowledge. Wilson, Shulman and Richert (1987) have described some of the initial phases of this transformation. One of their informants, Frank a student teacher, realized that the approach to the subject matter he had learned as an undergraduate in college did not lend itself to his high school classroom. Frank figured that if he were to teach his subject properly and effectively he would have to "handle 150 different approaches to biology." Frank is not complaining that he does not know enough biology, but rather he has discovered that the way he knows biology is not appropriate for teaching high school kids.

The components of content knowledge that make it more pedagogical have been described by Grossman, Wilson and Shulman (1989). They identify basically two components that facilitate the process, Dewey calls "psychologizing" the subject matter. First, they describe "dimensions of subject matter for teaching." These dimensions are overlapping and partly integrated. The first of these is "content knowledge for teaching" which is defined as "'the stuff' of the discipline: factual information, organizing principles, central concepts" (page 27). They note that student teachers with a specialization in a narrow area often have the wrong sort of content knowledge for teaching. The second dimension is "substantive knowledge for teaching." This way of knowing the subject matter refers to Schwab's (1978) "substantive structures of the discipline." These are the theoretical frameworks that combine, organize and give meaning to knowledge within disciplines. The third dimension is "syntactic knowledge for teaching." And again, they draw on Schwab's powerful ideas. This way of knowing the discipline describes the structures that guide inquiry in a discipline. It is fundamental to the way in which content knowledge later develops and transforms to become more pedagogical.

Second, Grossman, Wilson and Shulman (1989) describe a component they call "beliefs about subject matter." They claim that teachers' beliefs about the subject matter combined with their beliefs about students, schools, leaning and the nature of teaching "powerfully affect their teaching" (page 31). Two types of beliefs are identified. One is concerned with the subject matter and the priorities teachers assign to topics. The second type of belief is related to teachers' orientation to the subject matter. This belief, also called values (Gudmundsdottir, 1990a), shapes the kind of history, literature, math or science teachers feel is important for students to know. It also legitimates or excludes a range of pedagogical strategies that teachers feel are appropriate or inappropriate for teaching their subject matter to a given group of students.

It is this value laden belief about the subject matter, students, teaching, learning and schools that provides the foundation for understanding the narrative nature of pedagogical content knowledge. Values and narratives are inexorably intertwined. Together they have one fundamental principle in common, a principle that is basic to the narrative nature of pedagogical content knowledge -- values and narratives are interpretive tools that constitute a practical but highly selective perspective with which we look at the world around us and use to make sense of facts, various kinds of text or whatever experience we meet as teachers from the moment we first walk into a school. This aspect of the narratives as organizer of experience is vividly exemplified in Carter's (1991) study of "well remembered events" among student teachers.

EXPERIENCE NARRATIZED

Pedagogical content knowledge is a practical way of knowing the subject matter. It is learned mostly on the job from trying things out and observing, talking or working with other teachers. Tradition provides the narrative models to draw upon to understand and construct the

present, and it is maintained by the sense of a cumulated practice that is also shared by others. The narratives told within a tradition are a kind of "packages of situated knowledge" (Jordan, 1982). Practitioners well versed in their tradition know what stories to tell, when, to whom, and for what purpose (Orr, 1986).

Teachers live in stories. They tell their students about some of the things they know. Researchers offer themselves to teachers as sympathetic listeners. Their presence calls forth stories from teachers about who they are, what they know, and their world in the classroom. In the telling, the teachers' stories are simultaneously produced and revised. As researchers probe and guide with their questions, the teachers' stories inevitably become jointly produced. It is a dynamic process because past experience is not buried in the ground like archeological treasures waiting to be recovered and studied. Rather, the past is recreated through telling. It is though this narrative reflection and interpretation that experience is transformed into pedagogical content knowledge.

Researchers believe that the tendency to narratize is a manifestation of the mind in action, showing both the content of the mind and how it functions (Chafe, 1990). Mandler (1984) suggests that the mind organized knowledge into specific patterns: categorial or taxonomic, matrix, serial and schematic knowledge. The narrative is part of schematic knowledge, where information is organized according to part/whole configurations. Schemas are a kind of "prepackaged expectations" and ways of interpreting new information (Carter, 1987). These schemas are simultaneously created by the individual and furnished by our culture. Religion, ideology, legends, fairy tales, folklore, the education system and academic disciplines supply ready made narrative models of the world (Chafe, 1990).

Bruner (1986) was one of the first to alert us to the fact that there are two fundamental ways of knowing about the world, paradigmatic and narrative. If this is true, then the academic disciplines drawing on the narrative ways of knowing, must retain some of these characteristics. In an interview in the Chronicle of Higher Education an eminent economist (McClosky, 1991) argues that economics are to a large extent a narrative subject. He says that when economists talk about the deficit or the economic rise of Japan, they are basically telling stories. Moreover, he maintains that stories and metaphors are not "ornaments" but lead you directly to the heart of science. Within the field of human evolution, Landau (1986) has shown how early twentieth century accounts of human evolution are stories with common features that give them similar narrative structures, and within psychology, Gergen and Gergen (1986) have shown how developmental theories function like a narrative.

I believe that the study of teachers stories and narratives bring us right to the heart of pedagogical content knowledge, in all its variety and richness. I want to suggest that such a study should focus on four dimensions of narratives within pedagogical content knowledge: **practical** experience, **interpretation**, **reflection**, and **transformation**.

Practitioners who deal with people work with narrative knowledge. Mostly they use case histories and narrative explanations, as is exemplified in Schon's (1983) work. The practitioners he studied were architects, engineers and psychotherapists, and only the last group, the practitioners who dealt with people, offered stories to explain and justify their thinking and action. The world of classrooms is full of people, it can be at times chaotic, but is always unpredictable and multidimensional (Doyle, 1977, in press). The narrative structuring of events does seem like a reasonable and practical tool to create order and to understand.

The work of Elbaz (1983), Connelly and Clandinin (1988), Grant (1988) and Gudmundsdottir (1988) describes the different ways in which experienced practitioners have structured their practical knowledge. Elbaz along with Connelly and Clandinin (1988) have identified a body of knowledge they describe as practical knowledge. It is a "complex practically oriented set of understandings which teachers actively use to shape and direct the work of teaching" (page 19). Elbaz (1983) identifies five categories in the practical knowledge: knowledge of self, of the milieu of teaching, of subject matter, curriculum development and instruction.

Those who study what experienced teachers know about teaching and the world of classroom, inevitably find themselves listening to stories that teachers tell to explain the essence of what they know. "Nancy" (Gudmundsdottir, 1988) told a story about when and how she discovered that she used a pedagogical model of the subject matter in her teaching, "Bruce" (Clandinin and Connelly, 1986) told a story about one of his former students to explain and morally justify the way

he used language in the classroom. There are many such stories to be found in the studies of Elbaz (1983) and Clandinin (1986) and others who have studied what experienced teachers know about their work.

The studies of experienced teachers also demonstrate that they are concerned explicitly or implicitly with values and other moral issues in their practice. Huberman (1983) observes that studies on values among teachers "consistently shown [them] to be highly altruistic and socially oriented" (page 501). Huberman reports that teachers scored high on the Allport-Vernon-Lindzey scale, "slightly below theologians but well above doctors, lawyers, pharmacists and engineers" (page 501). Morals and narratives seem like natural partners in the life of practitioners like teachers.

To moralize in a narrative is to assign meaning to events and investing them with coherence, integrity, fullness and closure. We do this because we have to place events from experience within an order provided by the narrative. Scholars like White (1980) claim that by placing events in a narrative sequence every story becomes a kind of allegory endowed with moral significance. And telling the story is, according to White, "intimately related to, if not a function of, the impulse to moralize reality, that is to identify it with the social system that is the source of any morality we can imagine" (page 14).

Studies on student teachers show that they are also concerned with moral values, especially those that are interested in their subject matter (Grossman, 1987; Gudmundsdottir, 1987; Reynolds, 1987). Yet, they seem to be unable to fully integrate them with their developing pedagogical content knowledge. Experienced teachers, on the other hand, have thoroughly integrated their values with their subject matter, goals, views of students and teaching (Gudmundsdottir. 1990). It almost seems that values are the scaffolds for their pedagogical content knowledge.

The narration of practical experience comes naturally, like learning a language. Mandler (1984) considers the story schema to be parallel to learning grammar. It is a natural way to recount experience, and a solution to a fundamental problem in life, creating a reasonable order. Order is achieved along several cognitive dimensions (Robinson and Hawpe, 1986): **Economy**, the narrative order can be applied to almost all aspects of our lives, in the past, present and future. **Selectivity** is vital since we cannot pay equal attention to all our experiences. The narrative schema classifies and assigns significance to information and places them in the narrative. **Familiarity** is achieved in that repetition and similarity is created. This makes stories told within a tradition similar and easily understood, even in an seemingly unfamiliar setting.

In the construction and telling of a narrative there is always someone who is an interpreter, situated as Barhes says, between our experience and our efforts to make sense and describe. Narratives are never straight copies of the world like a photographic image. They are **interpretations** and to engage in an interpretation, according to Palmer (1969) is to stand in the place of an author. In the teachers' case, they have their mind fixed on their audience (the student) and they engage in what McEwan (1987) calls "pedagogical interpretation" producing something I want to call a "pedagogical text." And as Barthes reminds us, an author is not the one who invents the most fantastic stories or poems, but the one who achieves the greatest mastery over the cultural codes he shares with his readers.

To interpret this way requires that teachers learn to look and comprehend texts and classrooms pedagogically. There are many ways one can look at the world. Fish (1980) told his class that a list of names on the blackboard was a "poem." As soon as his students were told that this text was a poem, they began looking at it "with poetry-seeking-eyes." It means the students activated their previous set of experience with poems and a set of expectations about what poems can do to you. Their definition of "poetry" functioned like a "recipe" for what to look for, and in the process they produced a meaning of the text. The text itself is like a skeleton waiting to be brought alive in various ways with different readers looking at it with "poetry-seeking-eyes" or for that matter "pedagogically-seeking-eyes."

The texts used in teaching, textbooks and other curriculum materials, require that teachers look at them with "pedagogically-seeking-eyes." Understanding, according to classical hermeneutics (Palmer, 1969), requires that the reader reconstructs the text. The interpreter must know the texts, be intimate with the texts and the subject matter they represent, and immerse himself/herself in this

world of texts and subject matter. Only then can a pedagogically meaningful interpretation take place. To create a new text, a pedagogical text, first order referents must be selected (Polkinghorne, 1988). For example, when "Nancy" and "Naomi" taught Huck Finn each of them selected as referents specific episodes in the novel (Gudmundsdottir, 1988). "Snorre" a Norwegian history teacher select facts, figures, pictures out of his textbooks and adds to it other materials he has in his private curriculum collection (Gudmundsdottir, study in progress). Second order referents are created a causal pattern is constructed, a pattern that integrates all the first order referents into a meaningful whole, a narrative. This narrative is an interpretation of the text which is also an interpretation of some other texts. Interpretations are always inevitably interpretations of interpretations. "Snorre" created a new history "text" one he thought was more "pedagogical." The two American teachers "Nancy" and "Naomi" each created a new "text" from the first order referents they selected from Huck Finn, a narrative that each felt communicate what she saw in the novel. The seven experienced teachers I have worked with on both sides of the Atlantic Ocean are different in many ways, but they have all acquired a pair "pedagogically-seeking-eyes" that they use to study texts and construct new texts that are, in McEwan's (1987) words "pedagogical interpretations."

It is an achievement to learn to look at texts in this way. A good basis for this achievement is probably created in college through the study of the subject matter. But the most important pedagogical interpretation probably takes place on the job, **reflecting** on experience. Reflection involves retrospection on past events. Present moments and happenings usually have no systematic cognitive connection. They stand behind one another in a temporal sequence and it is only though reflection that they are matched to a story schema and assigned meaning. Such a match, according to Robinson and Hawpe (1988), is a natural way to recount experience. They believe that this naturalness is evidence for the success of narrative thinking in everyday life, especially among practitioners who deal with people.

Narratives are the ultimate **transformative** tool. The world of experience is taken apart and then put together again (Goodman, 1978). To discover meaning, experience is assimilated into a narrative schema. Experiments involving subjects observing moving geometric figures showed that the participants confidently imposed elaborate stories, even for the simples of these configurations (Michotte, 1963).

This shows that people have a natural and strong urge to narratize in order to impose meaning on experience. The experiment with the geometric figures involved progressing from something almost meaningless to a form endowed with meaning. In most cases, transformation involves progressing from a incomplete story to one that is more complete and compelling. We do this by establishing, first the connectedness or coherence, that move the storyline along though time. And then second, the direction of the story, the goal or the point of it all. With the goal established, events are rejected or transformed to be included, some with an added emphasis. Good stories are interpretive, memorable, functional and entertaining. These characteristics help us remember them, and a clear narrative form ensures that they are generalizable and applicable to a range of situations.

Experienced teachers are masters at transforming their curriculum (Gudmundsdottir, 1991). They have a large supply of well organized curriculum units that are constantly re-narratized, or put into a larger narrative structure in the curriculum, not unlike the "tale chunks" of the Xhosa tribe in Africa (Gough, 1990). These are coherent stretches of narratives that are combined in different ways to create a larger narrative. The Xhosa narrator is free, within limits, to put these tale chunks together.

Drawing on their pedagogical content knowledge experienced teachers are constantly revising old narrative units in their curriculum and constructing new one as they try to figure out new ways to make something interesting to their students. "Toroff" and "Hallgerd" teach Norwegian in a high school in Norway. They are required to teach poems by a 16th century poet whose language students find difficult. Both teachers are constantly figuring ways to make it easier for students to be interested in the poet and understand his poem. They approach this task by constructing an elaborate curriculum unit that has a clear narrative structure, presenting the poet, his poems and his 16th century world.

CONCLUSION

As a body of knowledge developed mostly though practice, pedagogical content knowledge retains some of the elements that characterize the knowledge of those who work with people in the practical domain. Pedagogical content knowledge is mostly "home made," developed on the job working with texts, subject matter and students in different contexts year after year, and in the case of experienced teachers, for decades. Narratives and stories are the tools practitioners frequently use to make sense of experience and organize it into a body of practical knowledge. The theory of text interpretation shows that understanding a text involves a re-construction, a new text. Teachers are in a unique situation. They not only interpret texts, they have to interpret pedagogically because it is their job to communicate their understanding to others. It is that pedagogical interpretation, that I believe is at the heart of pedagogical content knowledge. Good teachers do this and have done so ever since Socrates. I think it is time we begin to consider teaching for what it is, a "timeless text."

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